

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of communicating between a media access control layer (MAC) and a physical layer (PHY), comprising:

sending a first 100 MHz time-division multiplexed signal on a receive data ~~line~~ pin;

6. sending a plurality of time-division multiplexed receive control signals on a single receive control ~~line~~ pin;

sending a second 100 MHz time-division multiplexed signal on a transmit data ~~line~~ pin;

sending a plurality of time-division multiplexed transmit control signals on a single transmit control ~~line~~ pin,

wherein the receive control signals include a receive data valid signal and a receive error signal and the transmit control signals include a transmit enable signal and a transmit error signal.

2. (Currently Amended) The method of claim 1 wherein the time-division multiplexed receive control signals includes a plurality 4 bit segments and wherein each 4 bit segment includes a synchronization bit.

3. (Currently Amended) The method of claim 2 ~~wherein the receive data line includes 4 bit segments and~~ wherein the beginning of a each 4 bit segment of the receive data line is determined by the synchronization bit of such each 4 bit segment.

4. (Currently Amended) The method of claim 1 wherein the time-division multiplexed receive control signals includes a plurality of 4 bit segments ~~of the receive data line~~ and wherein each 4 bit segment includes a receive data valid bit.

5. (Currently Amended) The method of claim 1 wherein the time-division multiplexed receive control signals includes 4 bit segments and wherein each 4 bit segment includes a receive error bit.

6. (Currently Amended) The method of claim 1 wherein the time-division multiplexed receive control signals includes a plurality of 4 bit segments and wherein each 4 bit segment includes a carrier sense bit.

7. (Currently Amended) The method of claim 1 wherein the time-division multiplexed transmit control signals includes a plurality of 4 bit segments ~~of the transmit data line~~ and wherein each 4 bit segment includes a synchronization bit.

8. (Currently Amended) The method of claim 7 ~~wherein the transmit data line includes 4 bit segments and~~ wherein the beginning of a each 4 bit segment ~~of the transmit data line~~ is determined by the synchronization bit of such each 4 bit segment.

9. (Currently Amended) The method of claim 1 wherein the time-division multiplexed transmit control signals includes a plurality of 4 bit segments and wherein each 4 bit segment includes a transmit enable bit.

10. (Currently Amended) The method of claim 1 wherein the time-division multiplexed transmit control signals includes a plurality of 4 bit segments and wherein each 4 bit segment includes a transmit error bit.

11. (Currently Amended) The method of claim 1 further including indicating the speed of the PHY using the receive data ~~line~~ pin.

12. (Currently Amended) The method of claim 11 wherein indicating the speed of the PHY using the receive data ~~line~~ pin includes including an interface speed bit in a data segment when a receive control segment indicates no carrier sense, no receive data valid and no receive error.

13. (Original) The method of claim 1 further including buffering data transmitted from the PHY to the MAC using an elasticity buffer that is at least 27 bits long.

14. (Original) The method of claim 1 further including buffering data transmitted from the PHY to the MAC using an elasticity buffer that long enough to buffer an entire frame of data from a data source having a clock with a frequency tolerance of 0.1%.

15. (Currently Amended) An interface between a first media access control layer and a second media access control layer, consisting essentially of:

a time-division multiplexed receive data ~~line~~ pin;

a time-division multiplexed receive control ~~line~~ pin for transmitting different functional types of receive control signals including a receive data valid signal and a receive error signal;

a time-division multiplexed transmit data ~~line~~ pin;

a time-division multiplexed transmit control ~~line~~ pin for transmitting different functional types of transmit control signals including a transmit enable signal and a transmit error signal.

16. (Currently Amended) A media access control layer to physical layer interface consisting essentially of:

a common clock;

a time-division multiplexed receive data ~~line~~ pin;

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a time-division multiplexed receive control ~~line~~ pin for transmitting different functional types of receive control signals including a receive data valid signal and a receive error signal;

a time-division multiplexed transmit data ~~line~~ pin;

a time-division multiplexed transmit control ~~line~~ pin for transmitting different functional types of transmit control signals including a transmit enable signal and a transmit error signal.

17. (Currently Amended) The interface of claim 16, wherein said time-division multiplexed receive control ~~line~~ pin contains receive control signals further comprising a carrier sense signal.

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18. (Canceled)

19. (New) The method of claim 1, wherein the receive control signals further include a synchronization (SYNC) signal and a carrier sense signal.

20. (New) The method of claim 1, wherein the transmit control signals further include a synchronization (SYNC) signal.